



NATIONAL PARK SERVICE ENVIROFACTS

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ANTIFREEZE/COOLANT WASTE MANAGEMENT

DEFINITIONS

Antifreeze/Coolant: A fluid mixture of water, ethylene glycol or propylene glycol, and (in some cases) corrosion inhibitors used as a heat transfer medium (coolant). The fluid is, by design, intended to have a lower freezing point than pure water.

Waste Antifreeze/Coolant:

Antifreeze/coolant which no longer provides the heat transfer capacity or freeze protection required by the application. Waste antifreeze/coolant may, in some instances, be contaminated with other fluids or heavy metals, based on the application.

APPLICABLE STANDARDS

Federal: Waste antifreeze/coolant is not a listed hazardous waste under 40 CFR 261, Subpart D, but may be considered hazardous if it is combined with a listed waste or if it contains a heavy metal (such as lead) which causes it to be classified as hazardous. In most cases, waste antifreeze/coolant from late model cars is non-hazardous.

State: Most states do not regulate antifreeze/coolant more stringently than the Federal rules. Consult your state agency to confirm.

HANDLING

Antifreeze/coolant (new or used) should never be dumped on the ground or discharged into storm drains, septic systems, or streams. Small amounts of antifreeze/coolant spilled on a floor should be rinsed with water or dried with sorbents and put in the trash.

Treat all types of antifreeze alike. Do not assume that one type of waste antifreeze/coolant is less of a health hazard than another. Manage all types of antifreeze/coolant properly. Your Park or Regional Safety Officer must be consulted for information concerning proper handling of waste antifreeze.

Waste antifreeze/coolant should never be mixed with other fluids such as fuels, oils, hydraulic fluids, or solvents. This could cause it to be considered hazardous or could make the material difficult to recycle.

STORAGE

Waste antifreeze/coolant from several sources (i.e., cars) can be accumulated in the same

container before recycling. Dilution of certain contaminants (i.e., lead) which may occur during this practice is acceptable as long as the waste antifreeze/coolant is not mixed with a listed or characteristically hazardous waste.

Store new and waste antifreeze/coolant in labeled, sealed containers such that they are less likely to be spilled or used for other than their intended purpose.

RECYCLING

All waste antifreeze/coolant should be recycled, regardless of quantity. Parks should evaluate the opportunity to use either filtration or distillation units to reclaim spent antifreeze/coolant on-site for reuse. Units range in price from approximately \$2,000 to \$6,000 and are available through the General Service Administration (GSA).



It is a good practice to only use a recycling facility that has a valid EPA ID number. Small amounts of waste antifreeze/coolant can be transported by the owner to a recycling facility. Larger quantities should be given to a licensed and reputable transporter.

SPECIAL TOPICS

Health Hazards

Antifreeze/coolant can be poisonous to both humans and animals. Pets or small children can be attracted to antifreeze/coolant by its sweet smell. Antifreeze/coolant (especially ethylene glycol) is extremely toxic when ingested (even in small amounts), but it can also cause health effects due to skin absorption or inhalation. Heating or burning antifreeze/coolant increases inhalation hazards.

Propylene glycol has been touted commercially as a "safe" alternative to ethylene glycol mixes. However, while it is true that it is about ten times less toxic than ethylene glycol, ingestion can still be dangerous and toxic.

Typical Sources of Waste Antifreeze/Coolant

Most antifreeze and coolant mixtures contain either ethylene glycol or propylene glycol as a major component. Ethylene glycol (or derivatives) are the most commonly found. Propylene glycol mixtures have been

introduced in the past decade as "safer" alternatives to ethylene glycol.

Antifreeze or coolants are typically found in radiators of cars, trucks, and other equipment using internal combustion engines. Coolants can also be found in industrial applications, usually in chilled liquid cooling systems for larger buildings.

Some coolants, especially automotive antifreeze, contain corrosion inhibitors. These additives typically do not cause the mixture to be harmful or to be listed as a hazardous waste under federal regulation.

In some cases, heavy metals such as lead can be found in waste antifreeze/coolant from radiators. However, lead is no longer used as a soldering compound in radiators and is not usually found in waste antifreeze/coolant from late model year vehicles. Most sources of waste antifreeze/coolant can be presumed non-hazardous. Waste antifreeze/coolant from heavy equipment or unusual industrial sources should be characterized to assure it is non-hazardous.

POLLUTION PREVENTION

While the following recommendations are not specifically required by regulation, they provide a good method of assuring that antifreeze/coolant waste is managed appropriately:

- Safer alternatives: Consider the use of safer alternatives to ethylene glycol.
- Recordkeeping: Keep records of the amount, date, and shipper/recycler ID numbers for three years.
- Inventory control: Avoid stockpiling excess quantities of new or waste antifreeze/coolant to avoid accidental spillage or misuse.
- Training and education: Inform individuals who use or are likely to come in contact with new or waste antifreeze/coolant about the potential hazards and proper handling.

ENVIROFACTS X-REFERENCES

- Environmental Training
- Hazard Communication
- SPCC Plans
- Maintenance Wastewater Management
- RCRA Waste Characterization

ANTIFREEZE/COOLANT WASTE MANAGEMENT CHECKLIST

Checklist Item	Notes
1. Determine whether your state has adopted more stringent standards for facilities that generate, collect, transport, or manage used antifreeze/coolant.	
2. If your antifreeze/coolant is mixed with any hazardous waste assure that the mixture is being managed as a hazardous waste.	
3. If, due to the process where the antifreeze/coolant was used, there is reason to suspect it may have hazardous components, check to make sure that the waste is being characterized.	
4. Ensure that recyclers of waste antifreeze/coolant have EPA ID numbers.	
5. Confirm that records of off-site shipment amounts, dates, and transporter/recycler ID numbers are being maintained.	
6. Make sure that employees are being trained about the hazards and safe handling of new and waste antifreeze/coolant.	
7. Determine if your operation has investigated pollution prevention opportunities such as ensuring proper mixture ratios, testing prior to disposal/recycling, and using less toxic alternatives where applicable.	